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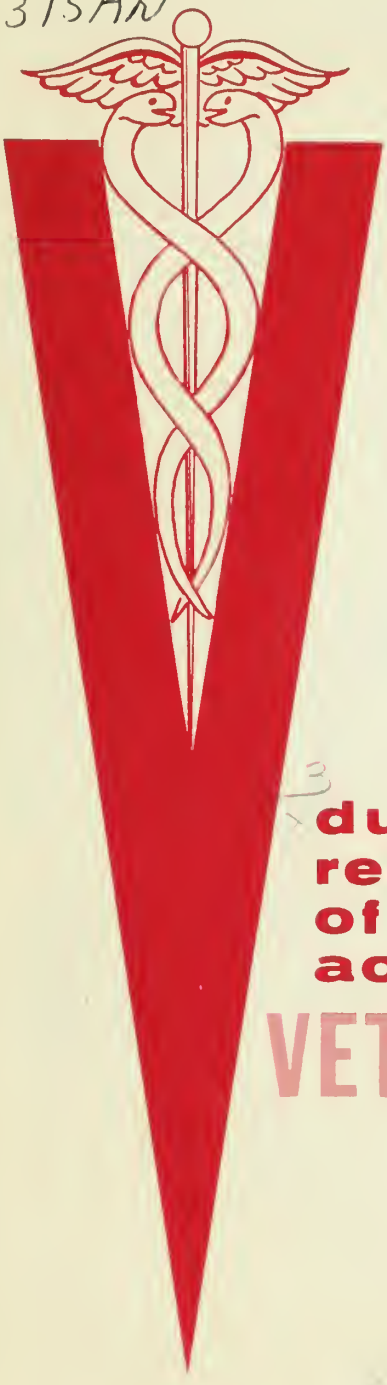

duties and responsibilities of accredited VETERINARIANS

Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE

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Compiled by

Animal Disease Eradication Division

and

Animal Inspection and Quarantine Division

FOREWORD

Animal diseases cost livestock growers and the American economy an estimated one billion dollars a year. Much of this is preventable. But the manner of disease spread is complex. If this burden ever is to be relieved, it will be only as a consequence of the cooperative efforts of the veterinary profession.

Veterinary competance begins in college. It progresses through practice and training. For 45 years Federal regulatory agencies have relied on the ability and integrity of accredited veterinarians in the cooperative control and eradication of livestock diseases. Most State and Federal regulations evidence this reliance by specifying that certain livestock movements may be made when certified by a full-time State or Federal veterinarian, or an accredited veterinarian. The propulsion of mankind into the jet-age, with foreign animal diseases only hours away, has accentuated dependence and cooperative needs.

Accredited veterinarians who are privileged to cooperate with the regulatory divisions in disease control programs are not only protecting the livestock industry of the nation, but adding to the well-being of mankind. This is a responsibility neither lightly given nor assumed.

Graduate veterinarians who are interested in becoming accredited should contact the State Veterinarian or the Federal Veterinarian in Charge of disease control and eradication activities of the State in which accreditation is desired. Because accreditation in one State is not valid in another, an applicant wishing accreditation should contact the officials in each respective State.

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ANIMAL DISEASE ERADICATION DIVISION

The Animal Disease Eradication Division is responsible at the Federal level for the formulation and administration of cooperative State-Federal programs for the control and eradication of animal diseases.

The responsibility for protecting the health of the Nation's livestock encompasses activities that include full-scale eradication programs, more limited activities in certain diseases, epidemiological surveys, laboratory and field diagnostic services, and a continuing interest in all animal diseases, domestic as well as foreign, that pose a threat to the Nation's animal food supply.

This is a summary of some of those activities.

ANAPLASMOSIS

The Division, in cooperation with State animal disease regulatory officials and cooperating livestock producers, is conducting surveys and field studies in various States to determine more precisely the location and incidence of this disease and to evaluate procedures for controlling and eradicating anaplasmosis from infected herds.

Since there are State and Federal restrictions governing the movement of anaplasmosis-infected animals from infected herds, accredited veterinarians should be familiar with the limitations as they affect their State.

BLUETONGUE

Bluetongue probably has been in the United States for a number of years. It was first mentioned in Texas in 1948 under the name

"soremuzzle." Since 1948, clinical diagnosis of bluetongue has been confirmed by laboratory studies in Arizona, California, Colorado, Idaho, Kansas, Missouri, Montana, Nebraska, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming. Cases in other States have been suspected.

When bluetongue is suspected, livestock sanitary officials should be notified. They will make arrangements with the Animal Disease and Parasite Research Laboratory at Denver, Colo. for inoculation tests. This test is made with blood collected from animals in the early stages of the disease--preferably those with high temperatures. This is the most satisfactory means of confirming a clinical diagnosis of bluetongue.

Control measures include vaccination in areas where the disease is endemic, and protection against the insect vector.

BRUCELLOSIS ERADICATION

The Program

The eradication of brucellosis from all species of domestic livestock is a cooperative program between the States and Federal Government, conducted under the laws and regulations of the individual States. The Federal Government cooperates with the States through memorandums of understanding under authority of specific Federal laws relating to animal diseases. The Uniform Methods and Rules, Brucellosis Eradication, are used as a guide, and constitute a recommended evolving program which will lead to total eradication of brucellosis from the entire Nation. The Uniform Methods and Rules are adopted by the U.S. Livestock Sanitary Association, and approved by the Animal Disease Eradication Division, Agricultural Research Service, USDA. Amendments to the Uniform Methods and Rules are considered by the USLSA at the annual meetings.

Interstate Movement of Animals as Related to the Brucellosis Program

The Division has primary responsibility for the control of interstate movements of animals. Federal regulations, promulgated by the Department, set forth the provisions under which animals may be transported interstate. The regulations are promulgated under

the authority of the basic Federal laws concerned with animal disease control and eradication activities. These laws also provide the Department with authority to contract for the services of accredited veterinarians to assist in the brucellosis eradication program.

Accredited veterinarians should be familiar with the Federal regulations pertinent to the brucellosis eradication program, whether or not they participate directly. As a service to their clients, most of them will be issuing official documents and performing other services required by the regulations.

Specific Federal Regulations Related to the Program

Applicable regulations will be found in the Code of Federal Regulations, Title 9, Chapter I, Subchapter B, Part 51, and Subchapter C, Parts 71 and 78.

Part 51 sets forth the provisions under which indemnities will be paid for animals destroyed because of brucellosis (as well as some other diseases).

Part 71 includes general provisions for interstate transportation of animals, including instructions for cleaning and disinfecting vehicles, yards, premises, and such, and the permitted disinfectants to be used.

Part 78 is specifically related to brucellosis, setting forth in detail the provisions under which animals may or may not be moved interstate.

Amendments to the Federal Regulations

Federal regulations are amended at frequent intervals as the need arises. Amendments appear in the Federal Register, published by the Office of the Federal Register, National Archives and Records Service, General Services Administration. The Register is distributed by the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Copies of the regulations and recent amendments are available from the Veterinarians in Charge, Animal Disease Eradication Division, in the various States.

Specifically Approved Markets - Certified Areas

Part 78 is particularly important in that it lists livestock markets and packing plants that are specifically approved to receive animals

moving interstate under provisions of the brucellosis regulation. Also, it lists those States and Counties that have achieved status as Modified Certified Brucellosis Areas under the cooperative State-Federal brucellosis eradication program. Animals from such areas enjoy special privileges in interstate movements as opposed to those from areas that have not yet attained this status.

History of Brucellosis Eradication

The cooperative State-Federal brucellosis eradication program began in 1934 as a drought relief program. Most states participated from the start. At that time the program was based on the blood serum agglutination test of cattle, with elimination of reactors. By this method alone, the animal infection rate was reduced in participating areas from 11.5 percent in 1935 to 2.5 percent in 1939. However, it became increasingly apparent that additional measures would be necessary if eradication was to be achieved.

Strain 19 Vaccine.--During this period, Department of Agriculture scientists were working to perfect a vaccine to be used against brucellosis. Strain 19 vaccine was the outcome of this effort. The vaccine was introduced into the official program in 1941 and has proved a valuable adjunct to the other procedures included in the program. Research trials over the years and extensive field surveys have established the efficacy of the vaccine. It has been found that there will be approximately 65 percent fewer infected cattle among vaccinated populations than among nonvaccinated populations under known conditions of average exposure. The merits of the vaccine have been proven, but its limitations must be kept in mind in relation to the total eradication program.

Milk Ring Tests.--In 1952 the milk ring test was approved and became a vital phase of the brucellosis eradication program. All commercial dairy herds in the U.S. are screened at least twice annually by this method. Eradication efforts are concentrated in those which are suspicious to the test. A suspicious ring reaction is presumptive evidence of Brucella infection and is followed by a herd blood test. The test is remarkably specific; less than one-half of 1 percent suspicious tests is now common in many States. Thus, more than 99 percent of the blood testing of dairy herds which would otherwise be necessary has been eliminated in these States. As time permits, those few herds that are persistently suspicious to the milk ring test but which do not reveal blood test reactors are the object of further investigations as to the cause. In almost all such situations, brucellosis is present in a subclinical form.

Market Cattle Tests.--Another effective screening program utilized in brucellosis eradication is the market cattle testing program. Introduced in 1958, this procedure involves the testing of identified cows at market centers and packing plants. The animals are traced to herds of origin, and the brucellosis status of each participating herd is thereby established and maintained. Herds which present conclusive evidence through market cattle testing that brucellosis is present are placed on an individual animal testing program according to the several alternatives set forth in the Uniform Methods and Rules. The market cattle testing program is contributing materially to the brucellosis eradication effort in many sections of the country. The procedure is also being expanded to include swine. Its universal adoption is anticipated, since this will provide the frequency of screening necessary to disclose the majority of the outbreaks of brucellosis and thereby help assure eradication.

Eradication the Goal

The importance of carrying out the above-mentioned procedures on an area basis cannot be overemphasized. The goal of area, State, and nationwide certification can be attained only when recommended procedures are uniformly applied to all herds within all areas. The certification of areas is an important step in the overall program to eradicate brucellosis. Without organized area effort and the whole-hearted participation of all herd owners, veterinarians, and others participating in the program, gains already made will be difficult to maintain, and the final goal of complete eradication of brucellosis will be delayed. Present plans are to achieve Certified Brucellosis Area status for the entire Nation by 1965, with eradication of brucellosis from all susceptible species of livestock to be completed by 1975. If all areas request the program in the near future, these goals will be achieved.

Participation of Accredited Veterinarians

The majority of accredited veterinarians will be participating in some part of the brucellosis eradication program prior to its completion. They will perform the following services:

- Provide herd owners and other interested parties with facts concerning the brucellosis eradication program and about the disease itself.

- Obtain blood samples and otherwise perform professional services promptly when requested by owners and authorized by officials.
- Prepare and submit test record charts in detail, including identification of animals, estimated age, pertinent history, vaccination record, etc.
- Promptly tag, brand, and appraise all reactors as requested. Indemnity claims constitute a legal and binding contract when approved, and the importance of accurate and full information cannot be overemphasized.
- Instruct owners of infected animals as to isolation and proper disposal of reactors, quarantine, shipping permits, cleaning and disinfecting of premises and equipment, indemnity claims, and management practices to preclude recurrence of the disease.
- Retest infected herds promptly as requested by program officials. In general, retests of herds should be accomplished 30 to 60 days following removal of reactors unless there are cogent reasons and official approval for shortening the period. Without a prompt retest, the owner's initial investment in disease eradication may be lost.
- Maintain stocks of strain 19 vaccine and administer the vaccine in such a manner as to assure a potent product.
- Vaccinate calves at recommended ages, accurately identify them, and promptly report all vaccinations to State or Federal officials. If the tattoo is used, the accredited veterinarian is expected to utilize techniques that will assure legibility. Following is a definition of an "Official Vaccinate":

"Official Vaccinate"

A bovine animal vaccinated against brucellosis with an approved Brucella vaccine while from 4 through 8 months of age, or a bovine animal of a beef breed in a range or semi-range area vaccinated against brucellosis with an approved Brucella vaccine while from 4 to 12 months of age, under the supervision of a Federal or State veterinary official, permanently identified as such a vaccinate, and reported at the time of vaccination to the appropriate State or Federal agency cooperating in the eradication of brucellosis.

The Accredited Veterinarian: A Representative of The Government

The accredited veterinarian, in assuming responsibilities for brucellosis eradication program activities, becomes a

representative of the Government. He should accept his full share of the program workload consistent with his available time. In estimating his participation, early completion of assignments should receive primary consideration. He should be willing to keep himself fully informed of the details of the program, as well as advances in the principles of brucellosis eradication. He should perform all services in accordance with State and Federal laws and regulations, and with approved procedures. As a representative of the Government and the veterinary profession, he should observe the highest standards of professional technique.

Some Suggested Techniques in Brucellosis Testing

1. Draw blood carefully so as to minimize contamination, filling tubes about half full. Allow to stand at room temperature until firmly clotted (2 or 3 hours), then cool or refrigerate (do not freeze).
2. Clearly label each tube, examine the stopper to assure firm fit and absence of leakage, and carefully pack as directed to prevent breakage. Marks on the tubes containing each sample will usually include an identification number assigned to each accredited veterinarian participating in the program.
3. Provide a separate sterile needle for each animal tested. Nose tongs should be disinfected between animals.
4. Use the following tables in classifying animals tested, except as noted in paragraph 5, below.

Official Vaccinates				All Others			
1/50	1/100	1/200		1/50	1/100	1/200	
-	-	-	Negative	-	-	-	Negative
l	-	-	Negative	l	-	-	Suspect
+	-	-	Negative	+	-	-	Suspect
+	I	-	Suspect	+	I	-	Suspect
+	+	-	Suspect	+	+	-	Positive
+	+	I	Suspect	+	+	I	Positive
+	+	+	Positive	+	+	+	Positive

5. Animals which are classed as suspects according to the above tables, but which have a history of abortion, may be designated reactors if they are in a herd containing reactors and if approved by the Veterinarian in Charge. Such animals are eligible for indemnity in States where State and/or Federal indemnity is paid.

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DOURINE

Dourine, or suspected dourine, should be reported promptly to livestock sanitary authorities. Veterinarians should be prepared to collect blood samples from suspected equines so that these authorities can forward preserved serum samples to the ADE Division Regulatory Laboratories, Beltsville, Md., for diagnosis by the complement-fixation test.

EQUINE ENCEPHALOMYELITIS

Equine encephalomyelitis should be reported to State-Federal livestock sanitary authorities.

EQUINE PIROPLASMOSIS

The first known case of equine piroplasmosis in the United States was diagnosed on August 10, 1961, in the State of Florida. Neither the date, mode of entry into the country, nor the incidence in the United States are known. All confirmed cases of the disease have been limited to the State of Florida, however, this does not preclude its existence in other States.

The disease is caused by the protozoa Babesia caballi and B. equi which invade the red blood cells of solipeds. All confirmed cases in the United States thus far have been caused by B. caballi, considered to be less pathogenic than B. equi.

Worldwide, 15 species of ticks are incriminated or proven vectors of equine piroplasmosis. At least two of them are found in the United States: The brown dog tick, Rhipicephalus sanguineus, and the tropical horse tick, Dermacentor nitens.

Detection of equine piroplasmosis is tedious, because there is no diagnostic test. Reliance is placed on demonstration of the protozoa in the red blood cells. Protozoa are most common in the peripheral circulation 2 to 5 days following appearance of symptoms. Differential diagnosis is further complicated by the fact that equine piroplasmosis is clinically indistinguishable from equine infectious anemia.

Veterinarians should be alert to cases of sick horses. When equine piroplasmosis or equine infectious anemia is suspected, Federal or State livestock sanitary officials should be notified immediately. Accredited veterinarians should be acquainted with the special techniques of collecting peripheral blood for diagnosis of equine piroplasmosis. This information is available on request from Federal or State livestock officials. Ticks found on infected animals should be collected and forwarded to the ADE Division Regulatory Laboratories, Parasite Reference Center, Agricultural Research Center, Beltsville, Md., for identification.

HOG CHOLERA

Known in the United States for more than a century, hog cholera has been reported from all parts of the country, and has killed more swine above weaning age than any other infectious disease. An eradication campaign against hog cholera is now underway. This is possible because of the development within recent years of newer and safer immunizing agents, regulations for cooking garbage fed to hogs, and strong public support for an eradication program.

Cooperative State-Federal efforts for hog cholera eradication are based on the following principles:

- Increased levels of vaccination.
- Prompt reporting of outbreaks.
- Quarantine of infected and exposed swine.
- Controls over intrastate and interstate movement of swine.
- Proper disposal of infected and exposed swine.
- Cleaning and disinfecting infected premises and facilities.
- Cooking garbage fed to swine.
- Prohibiting use of virulent hog cholera virus for immunization.
- Extensive informational and educational campaigns concerning the disease and its eradication.

A major medium for lowering incidence of the disease and a step leading to final eradication is proper vaccination of as high a percentage of the swine population as possible. This is particularly important in endemic areas in order to provide mass resistance against spread of the virus by reducing the number of susceptible swine. Immunizing agents used include modified or attenuated hog cholera virus vaccines, and killed or inactivated hog cholera virus vaccines.

The modified virus vaccines are living vaccines which can be used simultaneously with anti-hog cholera serum to provide immediate and lasting protection. The inactivated vaccines are used without serum and do not provide immediate protection. They can be used safely on pregnant sows or unthrifty pigs, and will not endanger unvaccinated susceptible swine. Proper immunization against hog cholera requires thorough study of the swine, careful selection of products, and attention to recommended procedures for administration.

Federal regulations concerning the hog cholera eradication program:

- Establish inspection and vaccination procedures for healthy, unexposed feeding and breeding swine moving interstate.
- Prohibit the interstate shipment of swine affected with hog cholera.
- Restrict the interstate shipment of hogs fed raw garbage.

State laws and regulations may similarly restrict swine moving intrastate, and in some cases impose import requirements in addition to those in Federal regulations.

The accredited veterinarian should acquire a thorough background in the hog cholera eradication program in his area in order to advise clients engaged in producing or marketing swine. He should study the disease and its differential diagnosis, and immediately report suspected outbreaks. He should become well-versed in the immunizing agents and their proper use. Familiarity with Federal and State requirements for shipment of swine is also his responsibility.

LEPTOSPIROSIS

Leptospirosis is a complicated disease affecting many species of animals including domestic livestock. Because of its nature, leptospirosis does not easily lend itself to an effective eradication program. Since wild animals, small domestic animals, and rodents are frequently affected, it is difficult to eliminate all foci of infection. Vaccines now being used in cattle are reasonably effective in preventing or alleviating outbreaks.

Many States include leptospirosis testing of blood sera as a primary service to practicing veterinarians, or in conjunction with

the brucellosis eradication program. Surveys as to the incidence of leptospirosis are necessary, since the manifestations of the disease in cattle and swine are often similar to those of brucellosis. Division activities related to leptospirosis are limited at present to diagnostic serology in selected locations. Educational materials are also available for distribution to individuals and organizations.

MUCOSAL DISEASE COMPLEX

Mucosal disease complex (mucosal disease; rhinotracheitis; virus diarrhea, Indiana; and virus diarrhea, New York) should be reported to State-Federal authorities. This group of diseases is considered to be comparatively new in the United States. Because of its economic importance and its similarity to rinderpest, it constitutes a serious problem.

POULTRY DISEASES

The poultry industry's annual loss due to disease exceeds $300 million.

Respiratory Diseases

Deaths and pathology caused by aspergillosis, infectious bronchitis, and Newcastle disease, and conditions attributed to Escherichia coli and pleuropneumonialike organisms, cause a major part of this loss. Veterinarians conducting flock inspections for interstate or export movement of poultry should be alert for evidence and history of respiratory diseases.

Pullorum Disease and Fowl Typhoid

At present there are no minimum requirements covering pullorum disease and fowl typhoid in the interstate movement of poultry. A proposed regulation is, however, under consideration. About 70 percent of the commercial poultry in this country is produced by qualified participants in the National Poultry and Turkey

Improvement Plans. Some States and most foreign countries require that incoming hatching eggs, chicks, or poultry originate from flocks which qualify under the above Plans or their equivalent.

Accredited veterinarians should be acquainted with the Plans in order to be able to make the necessary inspections, tests, and certifications for interstate and export movement. Most States participate in a cooperative State-Federal reporting system for identifying outbreaks of pullorum disease and fowl typhoid. Outbreaks of these diseases should be reported to the appropriate State disease control official.

Psittacosis or Ornithosis

Psittacosis or ornithosis, or suspected cases, should be reported. A positive diagnosis should be based on laboratory isolation of the viral agent. Federal regulations prohibit the interstate movement of affected poultry.

Exotic Diseases

When a disease outbreak exhibits unusual virulence and is suggestive of an exotic disease, such as fowl plague or Asiatic Newcastle disease, the information should be reported quickly to the appropriate State disease control official.

Reportable Poultry Diseases

Most States require routine reporting of many domestic poultry diseases. Information can be obtained from State disease control officials.

SCABIES

Animals affected with psoroptic scabies are prohibited by Federal regulations from moving interstate. Each State also has regulations concerning the handling of infected and exposed animals, and movements from affected herds and flocks. National programs to eradicate both psoroptic sheep and cattle scabies are underway.

In August 1960, Federal sheep scabies regulations were amended and an accelerated sheep scabies eradication program begun. At that time:

- 1,444 counties were considered sheep scabies free.
- Only one State, embracing 44 counties, had an active eradication program.
- 1,666 infected counties in 23 states and territories failed to qualify as sheep scabies eradication areas.

By January 31, 1963

- The number of scabies free counties had increased to 1,774 (a net increase of 330 counties).
- 758 counties (an increase of 1,700 percent) were qualified as sheep scabies eradication areas.
- The number of infected counties without an eradication program had been reduced from 1,666 to 622 (a reduction of more than 59 percent).

Scabies is spread mainly by the introduction of infected animals into herds or flocks as purchases from market centers, sales rings, livestock shows, and stockyards. It continues to be a problem because of undetected and untreated reservoirs of infection. Advanced cases are easily identified. The early, atypical cases with little loss of fleece and limited scratching are more difficult to detect.

Veterinarians should have a hand lens for examining ectoparasites and take skin scrapings when scabies is suspected. Where there is loss of fleece, mites are more commonly found at the periphery of the denuded area. Usually, mites are not active during the summer months. When scabies is suspected livestock sanitary officials should be notified immediately.

Scabies is comparatively easy to eradicate by dipping, if all animals in infected and exposed herds or flocks are properly dipped and held in the dip at least 1 minute. Frequently veterinarians are called upon to inspect and dip sheep and cattle for scabies. They also issue certificates for interstate movement or for compliance with state-of-destination requirements.

It is very important that veterinarians determine the origin of infection so that animals moved from infected and exposed herds may be located and treated.

SCRAPIE

Scrapie was first diagnosed in the United States in a Michigan flock in 1947. Since then, the disease has been diagnosed in 114 additional flocks in the States of Alabama, California, Connecticut, Georgia, Idaho, Illinois, Indiana, Iowa, Kentucky, Maryland, Michigan, Mississippi, Missouri, New York, North Carolina, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Six of the infected flocks were of the Cheviot breed, the remainder were Suffolks.

The cause of scrapie has been a subject of controversy for many years. The concensus of research and regulatory workers now is that the disease is caused by a filterable virus having unusual resistance to heat and disinfectants. The fact that the disease can be produced in goats by cohabitation with infected sheep, and can be produced readily in both sheep and goats, and more recently in mice, by inoculation, further supports the contention that the disease is due to a filterable virus.

The State-Federal cooperative eradication program is based on the slaughter of all infected and exposed sheep and goats. Scrapie creates problems not usually encountered in other disease eradication programs. For example, due to the extremely long incubation period of the disease, flocks that have included exposed sheep and goats are held under surveillance for a period of 42 months or longer. During this time flocks are inspected every 6 months, or more often if necessary. Periodic inspections of approximately 1,200 flocks are now being conducted in 37 States.

Scrapie is an insidious disease and its onset is difficult to detect. An owner may report only unusual behavior in his sheep. The veterinarian must become adept at recognizing early signs, and qualified to explain in detail to the owner the characteristics of the disease.

The diagnosis of scrapie is based on signs, history, spread, and histopathological findings. The disease appears most frequently in sheep 2 to $3\frac{1}{2}$ years old, seldom in sheep under 18 months of age. A clinical diagnosis of scrapie is confirmed by demonstrating vacuoles in neurons of the medulla on histological examination. The disease should be differentiated from listeriosis, Aujesky's disease, rabies, pregnancy toxemia, and scabies.

When scrapie is suspected, livestock sanitary officials should be notified immediately. The suspected animal should not be

slaughtered until regulatory officials have had an opportunity to observe the clinical signs and have determined that the case is advanced sufficiently that a satisfactory specimen of brain tissue can be obtained for laboratory examination.

It is very important to determine the origin of infection and to locate animals moved from infected flocks.

SCREWWORMS

Screwworms are the larvae (maggots) of the fly, Cochliomyia hominivorax. They are true parasites, feeding only on the living flesh of warmblooded animals. Infested, untreated animals may die.

Screwworms are natives of tropical and subtropical areas of North and South America. They have been known for 125 years. Prior to 1933, screwworms existed only in the States west of the Mississippi River. In 1933, screwworms were reported in Georgia, presumably introduced on infested animals from the Southwest. They spread rapidly and within 2 years were found throughout Florida. Each summer infestations spread into Georgia, Alabama, South Carolina, and occasionally farther north, but were subsequently killed by cold, winter weather in all Southeastern areas except peninsular Florida. Surveys revealed annual losses from screwworms of approximately $20 million in the Southeast, half of which was in Florida.

During 1958-59, an eradication program was conducted over 85,000 square miles in Florida, Georgia, and Alabama with the production and release of more than 3 billion laboratory-reared flies sterilized with radioactive Cobalt-60. The mating of the laboratory-reared sterile males with native females resulted in the production of eggs that failed to hatch. Continued release of irradiated males in overwhelming numbers eventually reduced the native population in the Southeast to zero. The mass production and dispersal of laboratory flies ended in November 1959. The cost for this eradication program exceeded 10 million dollars.

During the eradication program, an inspection line comprising 13 stations was established along the eastern border of Arkansas and Louisiana extending from Memphis, Tenn., to the Gulf of Mexico. Throughout the year, all livestock, and racing, hunting, and livestock-working dogs entering the Southeast from an area of

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recurring infestation--Arizona, California, Louisiana, New Mexico, and Texas (and from Arkansas during the period May 1 to November 30)--must be unloaded at the station and inspected for screwworms. Precautionary treatments are applied to all wounds and certain classes of these animals are sprayed or dusted with a pesticide. There is no provision for inspection and certification by accredited veterinarians, except for those animals moving into the eradication area by air or water from the above-named States.

From May 1 through November 30 each year all livestock moving from other sections of the United States, designated the area of seasonal infestation, to Alabama, Georgia, Florida, Mississippi, and South Carolina must be inspected by a Federal or State livestock inspector or an accredited veterinarian and certified free of screwworms. This inspection and certification must be performed within 36 hours prior to loading. The interstate movement of livestock infested with screwworms at any time is unlawful.

In spring of 1962 a program was started to eradicate screwworms from Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. This is a more complex and difficult program than the elimination of the pest from the Southeastern States. Ordinarily, screwworms survived the winter only in peninsular Florida. Water on three sides and cold weather on the north acted as effective barriers. The Southwestern States have no such advantage. Screwworm populations in Arizona, California, and the Republic of Mexico are a constant threat to reinfestation. To protect the Southwest from reintroduction of screwworms from California and Arizona, a number of inspection stations have been established along the western border of Arizona. Requirements for livestock moving eastward into the Southwestern eradication area are similar to those in force along the Louisiana-Arkansas boundary. Complete details of these regulations are contained in Part 83, Title 9, Code of Federal Regulations.

In addition, an artificial buffer zone is being established along the Mexican-Texas-New Mexican border. This will consist of a continuous release of sterile screwworm flies, control of animal movements, and the treatment of animal wounds.

TICK FEVER

The cattle fever tick, Boophilus annulatus, has been eradicated from the United States, except for a narrow buffer zone on the

Texas-Mexican border. All Mexican territory adjacent to the lower Rio Grande River boundary is tick-infested. Reinfestations in Texas occur regularly from ticks carried by Mexican animals illegally entering the United States. The buffer zone, under State and Federal quarantine, extends approximately 500 miles, from Del Rio to the Gulf of Mexico. The zone is patrolled constantly by Department inspectors who, in cooperation with Texas livestock sanitary authorities, apprehend stray animals from Mexico and prevent the dissemination of fever ticks.

The Federal-State cooperative eradication program, which includes inspection, quarantine, and dipping, is now confined to this buffer strip in southern Texas. Occasional reinfestations of the vector, however, also occur in California (introduced from Mexico), and in Florida.

The cattle fever tick (B. annulatus) may be carried by equines as well as cattle. The tropical variety (B. microplus), found in Puerto Rico, Florida, and Texas, also transmits tick fever. B. microplus may be carried by cattle, equines, sheep, and goats. Additional hosts, such as deer, have created local problems in the tick eradication program but have not prevented elimination of the vector.

Veterinarians should be alert for Boophilus ticks and other species, such as the red tick, Rhipicephalus evertsi, capable of serving as vectors of exotic diseases. This is true when inspecting animals along the Mexican border, on routine inspections at concentration points, and whenever health certificates are issued at any location.

When fever ticks are suspected, livestock sanitary officials should be notified immediately and specimens collected for identification at the ADE Division Regulatory Laboratories, Parasite Reference Center, Agricultural Research Center, Beltsville, Md. When other species of ticks are found they should also be collected for transmittal by livestock sanitary officials to the Parasite Reference Center.

In the United States the only recognized procedure for treating animals to destroy the cattle fever tick is by dipping at 14-day intervals in an arsenical solution containing 0.22 percent of arsenious oxide. The strength of the dipping solution is determined by a vatside chemical test before each use.

In October 1960, Delnav emulsifiable concentrate maintained at a concentration of 0.15 percent was added to the list of permitted dips to be used only as an immediate-kill agent for the interstate movement of animals.

The Program

The State-Federal Cooperative Tuberculosis Eradication Program has been in continuous operation since 1917. Losses to agriculture, to packers, to transportation agencies, and tuberculosis of bovine origin in the human population (especially children) were the motivating factors.

During the years 1917 to 1962 the incidence of bovine infection was reduced from about 5 percent to 0.12 percent. In 1917, approximately 50,000 whole beef carcasses were condemned as unfit for food because of tuberculosis. In 1962, 79 carcasses, other than those from animals reacting to the tuberculin test, were condemned as unfit for food. Human tuberculosis attributed to bovine infection has become a rarity in the United States.

Despite the vigorous eradication program, however, there is a continual reminder that tuberculosis in the bovine has not been eradicated. Foci of infection are located constantly by the tuberculin test, or by traceback to herds of origin of lesion animals found on regular kill in abattoirs. Without conscientious effort by the entire profession to locate and stamp out foci of infection, tuberculosis can revert to its original disastrous status. Statistical data demonstrate that tuberculosis foci are not peculiar to any geographical area, but may be located indiscriminately throughout the Nation.

The popular concept that tuberculosis was eliminated from cattle upon the attainment of complete modified accredited status throughout the country in 1940 is erroneous.

The tuberculosis eradication program is governed by the Uniform Methods and Rules. These are recommended by the Tuberculosis Committee of the United States Livestock Sanitary Association (USLSA), and approved by the Animal Disease Eradication Division of the United States Department of Agriculture.

These methods and rules are subject to constant review. They are changed periodically, after review by the entire U.S.L.S.A., to conform with the changing disease situation, new thinking, and research.

Services of Accredited Veterinarians

An accredited veterinarian should be thoroughly familiar with the Tuberculosis Eradication Program. He should:

- Accurately inform herd owners about the program and the tuberculin test.
- Accurately and conscientiously identify herds and animals and make complete records on standard forms regardless of whether the test is program or private treaty.
- Accurately transcribe tuberculin test information with proper identity of animals to Interstate Health Certificates in event of such movement.
- Make diagnosis on the proper reading date in accordance with the Uniform Methods and Rules.
- Tag, brand, and appraise reactors.
- Issue necessary forms such as quarantine notices and permits for movement of reactors to slaughter.
- Instruct owners concerning disposal of reactors.
- Instruct owners on cleaning and disinfecting of premises.
- Inform owners about indemnity payments.
- Instruct owners about management practices aimed at avoiding the appearance or recurrence of the disease.
- Leave copies of test reports with owners.
- Make honest effort to obtain herd histories, particularly as they relate to animal movements into and out of infected herds, and promptly report such information.
- Submit promptly all test reports and allied or supporting papers to the State-Federal Cooperative Program Office.
- Seek assistance from State and Federal veterinarians when in doubt about any phase of the program.

The Tuberculosis Test

Restraint.--Each animal must be effectively restrained by nose lead or other means. A good injection is imperative. This is impossible if an animal moves when the needle is inserted. Nose leads should be thoroughly washed in disinfectant solution between animals.

Injection Site.--The site is the skin of the caudal fold at a point 2/3 of the distance from the base of the tail. Either side may be used. It is advisable, however, to use the same side habitually.

Before making injection, the caudal fold is examined for abnormalities that might confuse observations. These are noted and indicated to the owner.

The site is cleaned with dry cotton or cotton moistened with alcohol. Strong disinfectants may cause irritation and confuse test interpretations.

Injection Technique.--Before use, the syringe is checked for leakage, needle gauge, and exposure, and adjustment for delivery of accurate tuberculin dosage. In routine area testing the tuberculin dosage is 0.1 cc.

In filling the syringe, air bubbles should be eliminated. An accurate test reading requires a careful injection. The needle is inserted between the layers of skin, then withdrawn slightly. The injection should be intradermal, not subcutaneous. The needle is cleaned with cotton moistened with alcohol between each injection.

Animal Identification.--If an animal does not have a tag, it is identified by inserting a passed tag in the right ear. Record tag number or tatoo for each animal on test chart. The owner is informed of the number of cattle under test and advised that they are quarantined to the premises until observations are made in 72 hours.

Observation of Test.--Observations are made 72 hours after injection. The injection site of each animal is observed visually and by palpation. Visual observation, alone, is an improper and unacceptable procedure.

It is helpful to palpate also the region anterior to the point of injection. Frequently, in reactor animals, the lymphatics are so enlarged as to be readily palpable under the skin of the caudal fold.

Failure to observe and palpate every animal, and hurried and careless interpretations, can cause tuberculosis to linger in a herd and discredit the test.

Interpretation and Classification.--Tissue disturbance at the injection site may vary from barely perceptible to a swelling the size of a fist. It may be hard and circumscribed, or soft and infiltrated with no distinct line or demarcation.

Neither size, shape, nor appearance of the tissue response reflects the degree of infection. Classification of tuberculin responses, therefore, is based on the professional judgment of the testing veterinarian, after consideration of all aspects of both individual and herd history.

(1) Recording and Reporting Response:

All reactor and suspect responses are recorded as symbols in the observation column of the test report.

- P1 is the standard symbol for a circumscribed swelling the size of a small pea (3/16 inch diameter).
- P2, P3, P4, etc., refer to circumscribed swellings 2, 3, or 4 times the diameter of a small pea.
- PP is a "pin-point" circumscribed swelling smaller than P1.
- X is the standard symbol for a diffuse swelling which is less than twice the thickness of the skin of the normal caudal fold.
- X2 is a diffuse swelling equal to twice the thickness of normal fold of skin.

(2) The Negative ("N") Classification:

- Animals with no tissue response are classified as negative.
- Animals showing minimal tissue response - PP or X - may also be considered as negative, provided: (1) There are no reactors on the current test, and (2) no lesions of advanced tuberculosis were demonstrated on previous tests.
- Animals showing minimal tissue response are not classified as negative in these instances--in retests of accredited herds; when herds are in the process of accreditation; in tests on animals intended for sale, show, or interstate shipment.

(3) The Suspect ("S") Classification:

- This is a broad classification. It is to be used for animals showing doubtful response to tuberculin which, in the professional judgment of the testing veterinarian should not be classified as reactors.

(4) The Reactor ("R") Classification:

- Animals showing P1-X2 or greater response to tuberculin on routine test usually are classified as reactors unless, in the professional judgment of the testing veterinarian, a suspect classification is justified.

Management of Reactors.--Reactors are branded with a T on the left jaw. A reactor tag, securely locked, is inserted in the left ear. Pending shipment, reactor animals must not be permitted to

associate with other livestock. Milk from reactors may not be sold for human consumption, and must be sterilized before feeding to animals. Reactors may not use alleyways and holding pens with other cattle unless they, too, are destined for direct slaughter.

Reactors must be shipped under permit for immediate slaughter only. Reactors must be marketed not later than 15 days following identification. Reactors may not be trucked or shipped with other livestock unless a partition fastened to each side of the conveyance divides reactors from non-reactors. Animals may be comingled if they are all going to slaughter. Tuberculosis reactors must be sold diriectly to a slaughter plant having adequate inspection or through a stockyard where they will be properly handled. A special Federal permit is required to ship reactors out of state.

VESICULAR CONDITIONS AND EXOTIC DISEASES

Diseases such as mycotic stomatitis, necrotic stomatitis, and vesicular stomatitis cannot be accurately differentiated clinically. Symptomatology may also be confused with numerous exotic diseases, such as foot-and-mouth diseases and rinderpest. Increased and more rapid world traffic has multiplied the danger of their entry into the United States.

Suspected vesicular conditions and exotic diseases should be reported promptly. A State-Federal emergency disease eradication organization has been established in each State to handle outbreaks of foreign diseases.

INTERSTATE AND INTRASTATE MOVEMENT OF LIVESTOCK

The early warning line in the protection of the Nation's animal food supply is the veterinarians on the ranches and farms. The second defense is the veterinarians at the centers of livestock concentration--the public stockyards and the specifically approved stockyards--along all lines of transportation.

Accredited veterinarians at ranches and farms:

- Test, vaccinate, and perform other veterinary functions in compliance with State and Federal regulations.

- Issue certificates, after inspection, attesting to the health of animals to be moved interstate and intrastate according to State and Federal regulations.
- Ensure, before a certificate is issued, that reactors are properly tagged and branded and that the approved destination of animals is placed on ADE Form 1-27.
- Cooperate with animal disease eradication officials in carrying out and enforcing State and Federal regulations.

Public Stockyards

Public stockyards inspection originated in 1890. It arose from congressional authorization for the investigation of pleuropneumonia, or any contagious, infectious, or communicable disease "along the lines of transportation from all parts of the United States . . . ." Today this embraces health inspections for all communicable diseases of all livestock received at public stockyards.

Accredited veterinarians at public stockyards:

- Cooperate with animal disease eradication officials in the enforcement of State and Federal regulations.
- Test, vaccinate, and perform other veterinary functions in compliance with State and Federal regulations.
- Perform additional services at some Public Stockyards under special authorization.

Specifically Approved Stockyards

The designation of specifically approved stockyards was authorized under Federal regulations on January 1, 1957. The purpose was prevention of the spread of brucellosis and paratuberculosis.

Accredited veterinarians at specifically approved yards:

- Make careful inspection of animals, before issuing certificates, to ensure that only healthy animals are permitted to be moved.
- Promptly notify State or Federal officials concerned whenever evidence of a reportable communicable disease is found.
- Supervise the proper disposition of exposed and diseased animals.
- Supervise the cleaning and disinfection of pens, premises, and vehicles which have contained diseased animals.

- Test, vaccinate, and issue certificates of animal health to comply with Federal regulations, as well as those of the State of destination.
- Inspect animals for compliance with Federal brucellosis regulations.
- Issue certificates that are clear, accurate, and legible, and make prompt distribution of same as required by State and Federal regulations.

Practically all States have health requirements governing the admission of animals from other States, and laws and regulations controlling the movement of livestock within the State. Accredited veterinarians should be familiar with State and Federal regulations on livestock movements. These are set forth in ARS 91-17-1, "Health Requirements and Regulations Governing the Interstate and International Movement of Livestock and Poultry."

Unqualified acceptance and conscientious performance of all duties involved in the interstate and intrastate movement of livestock is a basic responsibility of accredited veterinarians.

ADE DIAGNOSTIC LABORATORY SERVICES

Division diagnostic services are performed at two locations: the National Animal Disease Laboratory at Ames, Iowa, and the ADE Regulatory Laboratories at Beltsville, Md.

NADL, Ames, Ia.

Diagnostic services for viral and bacterial diseases are available in:

- microbiology--including mycobacteriology, serology, virology, diagnostic microbiology, and salmonella typing.
- diagnostic reagents--such as brucella antigen and vaccines.
- pathology and toxicology--embracing neuropathology and the pathology and toxicology of laboratory animals.
- biological services--concerned with the microbiology of commercially produced veterinary biologics.

Diagnostic facilities at NADL are available to accredited veterinarians only after clearance with the Veterinarian in Charge

of the State. Following clearance, specimens may be sent to the Assistant Director for Regulatory Services, National Animal Disease Laboratory, Ames, Iowa.

The following suggestions are a guide to the proper preparation and shipment of specimens to laboratories--except never ship specimens from suspected vesicular disease or any foreign animal disease to laboratories.

- Specimens for Bacteriological Examination: Glass containers should be scrupulously clean. Specimens for bacteriological examination should be uncontaminated and submitted in sterile containers. Specimens for culture from an organ, body fluids, cyst, or abscess can be obtained by using a sterile swab. Under asepsis, the swab is saturated and immediately replaced in the sterile test tube from which it was taken. Sterile saline solution is added to the tube to prevent the swab from drying. No chemical preservative is added. Refrigeration is the best preservative. Specimens showing lesions are preferred.

- Materials for Virus Isolation: Materials submitted for possible virus isolation should be freshly obtained from the acute, febrile stage of illness. In general, unless they can be delivered to a laboratory in less than 3 hours, all specimens for virus isolation must be frozen. If freezing is impossible, specimens may be shipped in buffered glycerine.

- Tissues for Histopathological Examination: Tissues for histopathological examination should be fixed promptly after death. Tissues from organs should be cut perpendicular to the surface to expose their anatomic structure. The specimen should include affected and normal tissue for identification and to show the character of spread. Specimens should not be folded or bent by the containers in which they are fixed. Wide-mouthed bottles should be used to facilitate removal and prevent damage of tissue. It is important to provide 10 times as much fixing fluid as tissue. Tissue slices for fixing should be no thicker than $\frac{1}{2}$ inch but may be longer and broader provided there is adequate fixative. Intestinal mucosa and organs should not be soaked or washed in water before removal of the specimen block.

- Fixing Solutions: Fixing solutions should be kept cool. Formaldehyde is the most versatile fixative and best results are obtained when it is diluted in buffered physiological saline or distilled water. Tissue is fixed for 24 hours in 10-percent aqueous formalin (9 parts water, 1 part formalin) to which

2 percent sodium acetate is added to maintain neutral pH. Tissue is transferred to fresh 10-percent formalin or formalin-saline in which it can be kept indefinitely. Alcohol (70 to 80 percent) alone has limited use as a fixing fluid. It hardens and dehydrates tissues while making them unsuitable for histologic preparation.

- Case History: A case history should accompany specimens. Tissue submitted under suspicion of a particular disease should be so labelled. Information accompanying laboratory specimens should contain: A description of the animal; breed, sex, peculiarities; incidence of the disease in the area; number and age of animals showing symptoms; number of animals dead; dates of all losses; symptoms and their duration; the condition of the eyes, feet, and skin; a description of the spread of the infection, if in a flock or herd; the type of preservative used with specimens; and return address.

- Blood Samples and Smears: The species of animal from which samples were taken should be indicated. Preparation of blood smears requires clean glass slides. Slides can be properly cleaned by washing them in 95 percent alcohol. The smeared surface must be protected en route to the laboratory.

- Shipping: Frozen or diseased specimens must be sent by air or railway express - notmailed. Other specimens preserved in fluid media may be mailed. Sturdy containers not over 3 inches in diameter should be used. Postal regulations require that all specimens be packaged in leak-proof containers well-wrapped with absorbent material, such as cotton, paper, or sawdust, that will completely absorb the contents if the container is broken. All shipping containers should be carefully and legibly labelled inside and out and indicate that they contain laboratory specimens. Specimens should not be shipped prior to a weekend or holiday. Postal authorities should be consulted about regulations before specimens are prepared for shipment by parcel post.

ADE Regulatory Laboratories, Beltsville, Md.

These laboratories provide diagnostic services for non-contagious and parasitic diseases. The facilities are available to the accredited veterinarian. The following suggestions should govern the preparation and transmittal of specimens:

- Anaplasmosis Reference Laboratory: Serum for anaplasmosis CF tests should be preserved with sufficient aqueous

phenol to provide a final concentration of 0.5 percent. This is done by adding one part of a 5-percent aqueous solution of phenol to nine parts of serum. The proportions of phenol and serum should not be exceeded. The tube should be well-shaken to assure proper preservation.

A minimum of 5.0 ml. of clear serum is needed and specimens need not be refrigerated. Samples should be accompanied by an original and 4 copies of the ADE 10-9 anaplasmosis test report form.

- National Screwworm Identification Center: Specimens of adult and/or larval forms should be obtained from each individual case and placed in separate brucellosis blood vials containing 70-percent alcohol. Specimens are shipped air mail. The package should contain two copies of the field collection form or two copies of ADE 10-1 forms giving complete collection data.

- ADE Parasite Reference Laboratory: Mites should be separated from skin scrapings and mounted in Hoyer's medium on a clean microscope slide. Multiple slides are preferred. The Hoyer's mounted slides should be heated not to exceed 110° F. for 24 hours. Each case should be accompanied by an ADE form 10-1. Where mounting facilities are not available, multiple mites from each animal may be shipped in small vials containing 70 percent alcohol. Dry scrapings are undesirable. Where local identification is impossible, individual animal scrapings shipped in a closed vial without alcohol or other preservatives will be accepted.

  In the submission of ticks, several should be carefully removed from each animal host and placed in a brucellosis bleeding vial containing 70-percent alcohol. Ticks from different species of host should never be mixed. ADE form 10-1 should accompany each lot of ticks from different owners.

- Chemical Reference Laboratory: All commercial chemical preparations used in Regulatory Programs are submitted for chemical analysis prior to acceptance by the Division. Current lists of permitted disinfectants and dips are thereby maintained. Specimens of products for analysis should be submitted in either 8 or 16-ounce glass or plastic bottles carefully packed to prevent breakage.

All specimens of parasites, chemical preparations, and sera for complement fixation tests are sent directly to:

ADE Division Regulatory Laboratories
ARS, USDA
Agricultural Research Center, Building 320
Beltsville, Md.

The type of specimen should be indicated on the outside of the package.

CLEANING AND DISINFECTING

The Nature of:

Disinfection is the chemical destruction of pathogenic organisms. For destruction, there must be contact.

There can be no contact of disinfectant with organism through organic debris. Disinfection, therefore, must be preceded by cleaning. Cleaning is the thorough mechanical removal of gross waste.

Without effective cleaning and disinfecting, there may be no eradication of disease.

Responsibility for:

Accredited veterinarians engaged in disease control programs have a responsibility to see that trucks, equipment, and premises are cleaned and disinfected. At the time reactors are tagged, branded, and appraised, it is the duty of the accredited veterinarian to explain in detail and to demonstrate to the farmer or the trucker the proper cleaning of premises, equipment, and vehicles.

Steps in:

- All bedding, manure, and accumulated waste should be removed.
- Surfaces should be scrub-brushed with soap and water, any good alkaline detergent in warm water, or lye at the rate of one 13-ounce can to 5 gallons of water.
- Lye should remain in contact with surfaces for 24 hours.
- Surfaces are flushed with clean water and a disinfectant applied preferably with pressure spray at 90 to 120 pounds per square inch.

Recommended Spray Mixtures

Disinfectant	Percent Solution	Mixtures	Disease
Cresylic *	4	1 cup to 2 gal. water	Brucellosis Hog Cholera Shipping Fever Swine Erysipelas Tuberculosis
Sodium carbonate (Soda ash)	4	1 lb. to 3 gal. water	Foot-and-mouth disease Vesicular exanthema Scrapie
Sodium hydroxide (Lye) Caustic Soda	2	13½ oz. can to 5 gal. water	Hog Cholera Foot-and-mouth disease Vesicular exanthema Scrapie
Sodium ortho-phenylphenate (USDA Approved)	1	1 lb. to 12 gal. water	Brucellosis Tuberculosis Hog Cholera
Sodium hydroxide (Lye)	5	5 (13½ oz.) cans to 10 gal. water	Anthrax Blackleg

*See ADED Permitted List.

Precautions in Use:

- Lye. Lye is very caustic. It will burn skin and corrode metal. It should be handled carefully. Rubber boots should be worn. Lye will destroy many micro-organisms and is a good cleaning agent. However, it is not effective against the tubercle bacillus and is not a permitted disinfectant against tuberculosis.

- Sodium orthophenylphenate. For effective disinfection this solution must be applied at a temperature of 60° F. or higher.

Whenever the temperature falls below 60°, the solution must be heated to at least 120° F. This material is not effective when preceded by cleaning with sodium hydroxide (lye) or other highly alkaline solutions. Containers should be tightly closed to prevent deterioration.

- Spray equipment. In using mechanical spray equipment for disinfecting, the electricity in the building always should be disconnected. This is a safety precaution to prevent fire and to prevent possible electrocution of the operator.

ANIMAL INSPECTION AND QUARANTINE DIVISION

There are two general areas of responsibility within the Animal Inspection and Quarantine Division (AIQ). These are: (a) Veterinary Biologics and (b) Import-Export.

During the course of a year millions of doses of biologicals are used in the immunization of animals and poultry. Veterinary Biologics is concerned with the safety, purity, and potency of these products.

Regulations include provisions for licensing commercial concerns to manufacture these items under the supervision and control of the AIQ Division. The aim of Veterinary Biologics is to allow the distribution of only high quality products manufactured in a manner scientifically acceptable and tested by the latest approved methods.

The Import-Export program of the Division, with which accredited veterinarians are primarily concerned, deals with the international movement of animals and animal products. This is subdivided into:

- Importation of Byproducts.
- Import--Animals, Animal Semen, Poultry, and Hatching Eggs.
- Export--Animals.

IMPORTATION OF BYPRODUCTS

Regulations

Imported meats, animal byproducts, and related materials may be a means of introducing foreign animal diseases into the United States. The Department of Agriculture has regulations governing the importation of such products designed to minimize this risk. These regulations are administered by the Animal Inspection and Quarantine Division. They are covered in The Code of Federal Regulations, Title 9:

- Part 94--Rinderpest, foot-and-mouth disease, fowl pest (fowl plague), and Newcastle disease (avian pneumoencephalitis): Prohibited and restricted importations--prohibits the importation of cattle, sheep, other ruminants, or swine, or of fresh,

chilled, or frozen meat of ruminants and swine from any country declared by the Secretary of Agriculture to be infected with foot-and-mouth disease or rinderpest. This regulation also has sanction in Federal law, Section 306a of the Act of June 17, 1930.

- Part 95--Sanitary control of animal byproducts (except casings), and hay and straw, offered for entry into the United States.
- Part 96--Restrictions of importations of foreign animal casings offered for entry into the United States.

Animal Products

Each year millions of pounds of animal products and related materials are imported for agricultural and industrial purposes from all over the world. These include: hides and skins, wool, hair, bristles, bones, bonemeal, horns, hoofs, tankage, bloodmeal, and finished pharmaceuticals prepared from animal glands and other materials.

The Division is concerned with those products that come from countries where rinderpest or foot-and-mouth disease is known to be present. Accordingly, unless effective and acceptable processing has been done in the country of origin, animal products from the infected countries are permitted entry only under restrictions.

In the case of bone, horns, hoofs, and bonemeal, usually imported for agricultural uses, there is the additional risk of anthrax. Since anthrax is present throughout the world, to prevent its further incidence in U.S. livestock, all bones and bone products are permitted entry under restrictions.

By restricted entry is meant:

- Inspection of cargo at dockside.
- Supervision of the loading of the restricted products on railroad cars or motor trucks.
- Sealing transporting vehicles with government seals.
- Release of shipments to processing establishments previously approved by AIQ Division.

IMPORT--ANIMALS, ANIMAL SEMEN, POULTRY, AND HATCHING EGGS

Regulations

The Department of Agriculture's regulations administered by AIQ Division to prevent the introduction of foreign animal diseases into the United States are contained in:

- Part 92--Importation of certain animals, animal semen, poultry, and hatching eggs.
- Part 94--Rinderpest, foot-and-mouth disease, fowl pest (fowl plague), Newcastle disease (avian pneumoencephalitis), and African swine fever: Prohibited and restricted import animals including poultry.

Purpose

These two regulations are evidence of an alertness to the dangers accompanying the importation of certain animals, animal semen, poultry, and hatching eggs. There is increasing awareness of the potential risk from various diseases, such as foot-and-mouth disease, rinderpest, contagious bovine pleuropneumonia, African horsesickness, African swine fever, East Coast fever, heartwater, and others, including the tick-borne diseases. When poultry are presented for entry care must be taken to prevent the introduction of fowl plague and the exotic strains of Newcastle disease.

Animals Governed by Import Regulations

Cattle, sheep, goats, and other ruminants (animals that chew the cud, such as buffalo, deer, antelope, camels, and llama); also domestic swine and all varieties of wild hogs, horses, burros, mules, zebras, and poultry (including chickens, ducks, geese, swans, turkeys, pigeons, doves, pheasants, grouse, partridges, quail, guinea fowl, and pea fowl of all ages, and eggs for hatching purposes).

Prohibited Imports

Current legislation prohibits the importation of cattle, other ruminants, and swine from any country declared by the Secretary of

Agriculture to be infected with foot-and-mouth disease or rinderpest. Regulations specify that wild ruminants from such countries may be imported into the United States and outline the manner in which they may enter. Such animals may be imported for exhibition only and are maintained under permanent quarantine in zoos specifically approved by AIQ Division for the Department.

The only countries of the world, where the raising of livestock is significant, that are currently considered free of both diseases are: Australia, Canada, Channel Islands, Greenland, Iceland, Ireland, Mexico, New Zealand, Northern Ireland, Norway, the countries of Central America, the islands of the Caribbean (with the exception of Martinique and Curacao), and the United States.

Cattle are also prohibited entry from any country where contagious bovine pleuropneumonia exists such as Australia; and from cattle fever tick infested areas, such as countries in Central America and the islands of the Caribbean. There are legal provisions for tick-free cattle to move from tick infested areas of Mexico into Texas and from the British Virgin Islands into the U.S Virgin Islands.

Ports of Entry

To provide for the orderly importation of animals and poultry and for veterinary inspection service, the Department has designated ports of entry--16 coastal, 52 along the Canadian border, and 14 along the Mexican border. Importations must be made through these designated ports, except in special cases when the Director of the Division may designate other ports with the concurrence of Customs.

Quarantine Stations

The Department of Agriculture owns and operates the "Athenia" quarantine station for the quarantine of animals and poultry entering the port of New York. At other ports of entry, when quarantine is required, it is the responsibility of the importer to arrange for quarantine facilities subject to the approval of AIQ Division.

Basic Import Requirements

An import permit must be obtained by the importer from the Washington Office of AIQ Division before animals and poultry are potentially eligible for importation from the country of origin.

Permits are not usually required for animals from Canada, provided they have not been in countries other than Canada or the United States; for horses from any country; or for ruminants and swine from the seven northern States of Mexico. Permits are not required for poultry from Canada if entered at a designated land border port.

Certification by a salaried veterinary officer of the national government of the country of origin showing freedom from disease, and exposure thereto must accompany shipment to the port of entry.

Veterinary inspection must be given at the port of arrival in the United States.

Quarantine when required, must be completed for a specified minimum period at the port of entry.

Inspection at Port of Entry

Veterinary examination of the animals or poultry is given by an AIQ veterinarian at the port of entry. All animals found to be free from communicable disease, and not exposed thereto within 60 days prior to the offer for importation, may be admitted subject to various other provisions.

All necessary accompanying papers such as certificates, documents, and test charts must be accurate and complete before importation is permitted.

Specific Animals

- Domestic ruminants must be accompanied by a health certificate and, when applicable, test chart showing negative results to tests for tuberculosis and brucellosis.
- Horses from most countries must show negative results to dourine and glanders tests on blood samples collected at the U.S. port of entry.
- Dogs subject to the Department's regulations are collie, shepherd, and similar breeds intended for use in the handling of livestock. Such dogs, except from Canada, Mexico, and countries of Central America and the West Indies, are examined at the port of entry to determine their freedom from Multiceps multiceps.
- Wild ruminants and swine (zoo animals) may be imported from foot-and-mouth disease or rinderpest infected countries; but rigid requirements have been established. One of these is that following

release from quarantine the animals must be consigned only to a Department-approved Zoo operating under acceptable standards and under appropriate supervision.

Precautionary Treatment

Certain precautionary treatments against external parasites and other disinfection procedures of the animals and accompanying equipment and litter are carried out to further safeguard the livestock of this country.

EXPORT ANIMALS

Regulations

Regulations governing the "Inspection and Handling of Livestock for Exportation" are contained in Part 91. These are minimum requirements of the receiving foreign country if the latter are less restrictive.

Purpose

- To promote foreign trade by insuring, as far as possible, that only healthy animals are exported.
- To provide for humane handling and safe transport.

Animals Governed by Export Regulations

Export regulations of the Department are applicable to cattle, sheep, goats, swine, horses, mules, and burros.

When required by the import regulations of the receiving country, certain other animals, poultry, and hatching eggs may be inspected and a health certificate issued.

Foreign Import Requirements

The AIQ Division is familiar with the import requirements of the English-speaking countries and can usually supply current information. However, requirements of most other countries are difficult to maintain. It is the responsibility of the shipper to obtain current information concerning import regulations of the receiving country. Since most foreign countries require that a permit be issued by them before animals may be imported, the requirements that are applicable to a proposed importation are usually included when the permit is issued.

Inspection at Origin

Veterinary inspection of animals intended for shipment to a foreign country must be made on premises of origin by an accredited veterinarian, a full time State-employed veterinarian, or an ARS veterinarian. However, the receiving country may accept inspection and certification only if completed by an ARS veterinarian. This is true for sheep and goats destined to Canada. Test charts and health certificates should be completed and issued in accordance with specific instructions.

Test Charts

Test charts are usually State-supplied forms designed especially for recording results of tuberculin and brucellosis tests.

Entries on these charts should be legible and all animals tested for export clearly and individually identified. The numerical figure of the total number of animals eligible for export should be recorded on the face of the chart and a diagonal line drawn across the unused lower portion as a protection to the issuing veterinarian and an assurance that the completed charts cannot be subsequently altered by the addition of unauthorized animals.

Besides the tuberculin and brucellosis tests, some countries require other tests for diseases such as paratuberculosis, anaplasmosis, piroplasmosis, or Q fever. If made, the results of these tests should likewise be clearly shown.

Tuberculin and Brucellosis Tests

Department regulations require that all dairy and breeding cattle, except calves born after test of the dam, be tuberculin tested with negative results to be eligible for export.

Nonofficially vaccinated and unvaccinated cattle (bulls and females) over 6 months of age must be blood tested for brucellosis with negative results in dilutions of 1:50 and above.

An officially vaccinated animal is defined as a bovine animal of a dairy breed vaccinated against brucellosis from 4 through 8 months of age - or a bovine animal of a beef breed in a range or semi-range area, vaccinated against brucellosis from 4 to 12 months of age--under the supervision of a Federal or State Veterinary official, with a vaccine approved by the Animal Disease

Eradication Division, ARS, USDA; permanently identified as a vaccinate and reported at the time of vaccination to the appropriate State and Federal agencies cooperating in the eradication of brucellosis.

Officially vaccinated animals over 30 months of age must be blood tested for brucellosis with negative results in dilutions of 1:100 and above.

NOTE: Canada does not consider official the brucellosis vaccination of any breed, if done after the day the animal becomes 11 months old.

Either the tuberculin test or the brucellosis test may be waived by the Director of the Animal Inspection and Quarantine Division when so requested by a responsible official of the country of destination, if the Director feels that it can be done without endangering the export of U.S. livestock.

Tests for tuberculosis or brucellosis must be completed within 30 days from date of intended shipment from point of origin in the United States.

Health Certificate

Health certificates should not be confused with test charts. Health certificates record the veterinary health inspection of export animals at point of origin and certify that the necessary diagnostic tests were performed.

The certificate (at least 5 copies) should carry the following or similar statement that the animals listed thereon were free from evidence of communicable disease and, insofar as can be determined, exposure thereto. Many State test charts contain a satisfactory printed statement of health; however, the charts of those States not containing this or a similar statement must have such statement typed or otherwise clearly shown before they become recognized health certificates for export purposes.

In addition, health certificates should show any vaccinations or immunizations given immediately prior to shipment, with appropriate dosage product used, and date administered clearly indicated.

Completing Certificates

Certificates accompanying animals to port of export shall show proper identification of the animals in the shipment with respect to breed, sex, and age and, when applicable, shall also show registration name and number, tattoo markings, tag number, or other natural

or acquired markings. Grade sheep or swine in carload lots need not be individually identified, but each lot should be collectively identified as to breed, sex, and age, plus any other identifying features of the lot.

The correct date of issuance of the certificate should be indicated. This should coincide with the date of actual inspection of the animals.

Only true statements should be made. Unsubstantiated statements such as "these animals are free of all diseases" are not acceptable.

Names and addresses of consignor and consignee must be shown.

Port of export, and country of destination, must be clearly shown.

Certificates must carry a statement to the effect that the owner or shipper has been advised that the animals must be conveyed to the port of export in cleaned and disinfected vehicles (see Transportation below).

Endorsement of Health Certificates

All copies of the completed certificate, as one of the necessary export requirements, shall be endorsed by the Agricultural Research Service veterinarian in charge in the State of origin, or by another ARS veterinarian so authorized by the Director of the Division.

IMPORTANT: All copies of certificates must be legible and complete before they can be properly endorsed.

Transportation

Department regulations require that all animals intended for export be moved from premises of origin to a port of export in cleaned and disinfected trucks, railroad cars, or other conveyances unless such conveyances were not previously used to transport livestock. Crates must be constructed of new material, or if previously used to transport livestock must first be cleaned and disinfected.

Reinspection and Certification at Port of Export

Animals destined to a foreign country are given AIQ veterinary inspection at ports of export specified by regulation, except that reinspection of livestock destined overland to Canada and Mexico is the responsibility of the salaried veterinarians of those governments. If the animals are accompanied by properly executed and endorsed health and test certificates, and the ARS port veterinarian finds the animals to be free from evidence of communicable disease and exposure thereto, he may issue a specific export certificate to that effect, (except in the case of Canada and Mexico), which accompanies the animals to destination. Issuance of the export certificate is based upon the port veterinarian's inspection of the animals and his examination of the documents accompanying the shipment.

Export Animals, Poultry and Hatching Eggs--Special Requirements

Animals.--Some special requirements for movement of animals from the United States should be noted:

- Except for immediate slaughter, all sheep and goats destined to Canada must be inspected and the necessary certificates issued at the point of origin by an ARS veterinarian.
- Cattle for rodeos, circuses, or other similar entertainment purposes, must be accompanied by a health certificate properly issued and endorsed within the preceding three months for reentry into the United States. Diagnostic tests are not required for such animals.
- Poultry and Hatching Eggs--This Department does not have regulations applicable to the export shipment of poultry and eggs; therefore, such shipments are governed by the import regulations of the receiving country.

Canadian authorities have approved a specific certificate (AIQ-35) for poultry and hatching eggs from the United States. These certificates may be obtained from the ARS Veterinarian In Charge in the State of origin, who must also endorse them when completed. Inspection and certification for poultry and hatching eggs destined to Canada may be done by an accredited veterinarian. A summary of other requirements necessary to meet Canadian import regulations for poultry is contained on the reverse side of the certificate.

Mexican import regulations contain the requirement that a prior permit for livestock, poultry, and hatching eggs be obtained from the Ministry of Agriculture, Mexico, D. F., Mexico. They also

require that health certificates accompanying such shipments to Mexico be visaed by a Mexican consular officer nearest the point of origin.

IMPORTANT: ARS personnel authorized to endorse certificates for export animals and poultry have been instructed not to do so unless the certificates have been:

- Issued by an accredited veterinarian, State veterinarian, or ARS veterinarian.
- Properly executed.
- There is reason to believe that all statements are accurate and factual insofar as can be determined.

U. S. GOVERNMENT PRINTING OFFICE : 1963 O - 695-930